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The study of solid high-molecular paraffin hydrocarbons in crude oils

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Abstract

© Research India Publications. Information about the composition, structure and properties of high-molecular paraffin hydrocarbons is of great importance for understanding the phenomena of structuring oil disperse systems, changing their viscosity properties, as well as practical problems associated with the extraction and transportation of paraffin oils, for the development of physico-chemical and chemical methods of controlling asphaltene tar-paraffine deposits. In this connection, advanced study of their influence on the properties of oil disperse systems is essential. The article studies the high-molecular compounds of paraffin hydrocarbons in the crude oils and their components, assesses their quantitative content and impact on the physical and chemical properties of crude oils, reveals the features of the composition of asphaltene resin-paraffine deposits conditioned by different content of high-molecular paraffin hydrocarbons in them. It has been determined by the method of differential scanning calorimetry the presence of alkanes in asphaltenes of oils. It has been found that high-molecular alkanes in oils structure dispersion medium or concentrate in the resin-asphaltene components, which defines different mechanisms of formation of the viscous properties of crude oils.

Keywords

Asphaltene resin-paraffin deposits, Asphaltenes, Crude oil, Oil disperse system, Paraffin waxes